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DEPARTMENT OF COMMERCE  
HERBERT HOOVER, SECRETARY  
BUREAU OF THE CENSUS  
W. M. STEUART, *Director*

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# CENSUS OF MANUFACTURES 1921

SUMMARY FOR THE UNITED STATES  
BY INDUSTRIES, GEOGRAPHIC  
DIVISIONS, AND STATES



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## EXPLANATION OF TERMS.

**Scope of census.**—Section 32 of the act providing for the Fourteenth Decennial Census authorizes and directs the collection and publication, for the years 1921, 1923, 1925, and 1927, and for every tenth year after each of those years, of statistics of the products of manufacturing industries. (The decennial censuses will cover the years 1929, 1939, etc.) Detailed censuses of manufacturing industries were taken decennially prior to 1899 and have been taken quinquennially beginning with the canvass for that year.

The scope of the biennial inquiry has been considerably restricted as compared with the quinquennial census, this restriction having been necessary in the interest of economy in both time and expense. The items of information secured at the quinquennial censuses but omitted at the biennial census are: Capital, sex and age distribution of employees, rent and taxes, primary horsepower, and kind and quantity of fuel used. The biennial census, like the quinquennial censuses, does not cover establishments which were idle during the entire year, nor the manufacturing done in educational, eleemosynary, or penal institutions. This census excludes also establishments having products valued at less than \$5,000<sup>1</sup> each, whereas the quinquennial censuses excluded only those whose value of products was less than \$500.

**Area and period covered.**—The canvass covered the 48 States and the District of Columbia. The returns relate to the calendar year 1921, or the business year which corresponded most nearly to that calendar year, and cover a year's operations, except for establishments which began or discontinued business within the year.

**The establishment.**—As a rule, the term "establishment" represents a single plant or factory, but in some cases it represents two or more plants which were operated under a common ownership or for which one set of books of account was kept. If, however, the plants constituting an establishment as thus defined were not all located within the same city or State, separate reports were secured in order that the figures for each plant might be included in the statistics for the city or State in which it was located. In some instances separate reports were secured for different industries carried on in the same establishment.

**Classification by industries.**—The establishments were assigned to the several classes of industries according to their products of chief value. The products reported for a given industry may thus, on the one hand, include minor products different from those covered by the class designation, and, on the other hand, may not represent in full the products covered by this designation, because some of this class of products may be made in establishments in which they are not the products of chief value.

**Persons engaged in the industry.**—In the case of employees other than wage earners, the number was reported for December 15, or the nearest representative day, which has been treated as equivalent to the average for the year, since the number of employees of this class does not ordinarily vary from month to month. In the case of wage earners a report was obtained of the number employed on the 15th of each month. From these figures the average number of wage earners for the year has been calculated by dividing the sum of the numbers reported for the several months by 12. The importance of the industry as an employer of labor is believed to be more accurately measured by this average than by the number employed on any given day.

**Capital (amount actually invested).**—No data as to capital were collected at the census of 1921. The instructions on the schedules for 1919, 1914, and 1909 with reference to securing this class of data were as follows:

"The answer should show the total amount of capital, both owned and borrowed, on the last day of the business year reported. All the items of fixed and live capital may be taken at the amounts carried on the books. If land or buildings are rented, that fact should be stated and no value given. If a part of the land or buildings is owned, the remainder being rented, that fact should be so stated and only the value of the owned property given. Do not include securities and loans representing investments in other enterprises."

**Salaries and wages.**—Under these heads are given the total payments during the year for salaries and wages, respectively. The Census Bureau has not undertaken to calculate the average annual earnings of either salaried employees or wage earners. Such averages would possess little real value, because they would be based on the earnings of employees of both sexes, of all ages, and of widely varying degrees of skill. Furthermore, so far as wage earners are concerned, it would be impossible to calculate accurately even so simple an average as this, since the number of wage earners fluctuates from month to month in every industry, and in some cases to a very great extent. The Census Bureau's figures for wage earners, as already explained, are averages based on the numbers employed on the 15th of each month, and while representing the number according to the pay rolls to whom wages were paid on that date, no doubt represent a larger number than would be required to perform the work in any industry if all were continuously employed during the year.

**Cost of materials.**—The statistics as to cost of materials relate to the materials used during the year, which may be more or less than the materials purchased during the year. The term "materials" covers fuel, rent of power and heat, mill supplies, and containers, as well as materials which form a constituent part of the product.

**Value of products.**—The amounts given under this heading represent the selling value or price at the factory of all products manufactured during the year, which may differ from the value of the products sold.

**Value added by manufacture.**—The value of products is not always a satisfactory measure of either the absolute or the relative importance of a given industry, because only a part of this value is actually created by the manufacturing processes carried on in the industry itself. Another part, and often by far the larger one, represents the value of the materials used. For many purposes, therefore, the best measure of the importance of an industry, from a manufacturing standpoint, is the value created by the manufacturing operations carried on within the industry. This value is calculated by deducting the cost of the materials used from the value of the products. The figure thus obtained is termed in the census reports "value added by manufacture."

**Influence of price changes.**—In comparing figures for cost of materials, value of products, and value added by manufacture for 1921 with the corresponding figures for 1919 and earlier census years, account should be taken of the pronounced increases in the prices of most commodities between 1914 and 1919, and of the decreases in the prices of certain classes of commodities between 1919 and 1921. To the extent to which this factor has been influential, the figures fail to afford an exact measure of the increase or decrease in the volume of production.

**Cost of manufacture and profits.**—The census data do not show the entire cost of manufacture, and consequently can not be used for the calculation of profits. No account has been taken of depreciation or interest, insurance, ordinary repairs, advertising, and other sundry expenses; and for 1921 data for rent and taxes, included at prior censuses, have also been omitted.

<sup>1</sup> Establishments with products valued at less than \$5,000 were canvassed, but the returns are included only in the table showing size of establishments by value of products.